

the microscope, with a moderate power, this beaded aspect is lost, and the barbule appears merely divided by faint transverse partitions into a series of cells, some of which, towards the apex, exhibit small tooth-like projections representing the rudiments of barbicels (fig. 3). All the barbs remaining on the feathers appear to be imperfect.

The barbs of the accessory plume are of the same general structure as those on the main shaft, but they appear to form a single series on each side from the base.

The barbs nearest the base of the feather, both in the main web and the accessory plume, are destitute of barbules for some distance from their base; but this distance gradually decreases until the barb is furnished with barbules throughout its whole length.

It is evidently impossible to determine from these mere fragments of feathers what was the precise structure of those organs when perfect; we cannot even decide whether the basal barbs possessed the hair-like tips characteristic of those of the Emu and Cassowary, and still less whether the apical portion of the feather supported simple barbs such as occupy that position in those birds. The only fact of importance, indeed, that I can hope to make known by this paper is that the *Dinornithes* undoubtedly possessed a large accessory plume, thus adding another proof of their relationship to the green-egged Emus and Cassowaries existing in the Australian region, and of their difference from the white-egged group of Struthiones represented in Africa and South America.

### 3. DIAGNOSES OF NEW SPECIES AND A NEW GENUS OF MOLLUSKS FROM THE REIGEN MAZATLAN COLLECTION: WITH AN ACCOUNT OF ADDITIONAL SPECIMENS PRESENTED TO THE BRITISH MUSEUM. BY PHILIP P. CARPENTER, B.A., PH.D.

After the publication of the British Museum Mazatlan Catalogue, the backs of several fresh *Spondylus*-valves were examined by Mr. R. D. Darbshire and myself. Among the specimens were several which were deemed worthy of being added to the national collection; they were deposited there, with a MS. appendix to the Catalogue, in 1858. As it is not judged necessary to print this separately, I have (with the permission of Dr. Gray) transcribed what should be placed on record, in hopes that it may not be judged out of place in the 'Proceedings.' Those who use the Mazatlan Catalogue are requested to observe not only the corrections in the Appendix, pp. 547-552, but also those made in the Review of Professor C. B. Adams's Panama Catalogue, P. Z. S. 1863, p. 339; and in the British Association Reports, 1863, pp. 543 *et seq.* The numbers, both of species and of tablets, are continued from the Mazatlan Catalogue, and correspond with those in the Report. The student of the Gulf fauna should also consult the account of Mr. Xantus's

Cape St. Lucas shells in the 'Annals Nat. Hist.' 1864, and in the Report, pp. 616-626\*.

704. *CELLEPORA AREOLATA*, Busk†.

Tablet 2540 contains a specimen on *Omphalius ligulatus*.

705. *MEMBRANIPORA ? FLEMINGII*, Busk†.

Tablet 2541 contains a group on *O. ligulatus*.

\* The following additional specimens from the Reigen Collection have been presented to the British Museum:—

Tablet.

- 12\*. A group on *Omphalius ligulatus*.
- 13\*. *Lepralia adpressa* and *Membranipora*, sp. ind., on ditto.
- 42. Young opposite valve of *Solecurtus*; perhaps conspecific.
- 201\*. Four young valves (smallest .05 by .034) probably of this species.
- 206\*. Minute transparent valve, .028 across, teeth unformed; perhaps of this species.
- 358\*. Two specimens; margin irregular.
- 594\*. Several specimens in *Uvanilla unguis*; one, not having room within, has made a case for itself outside the *Uvanilla*.
- 642\*. A pair, .3 by .15; probably an older state of the same species, *Barbatia alternata*.
- 60\*. A minute, transparent valve, .045 by .024, without teeth; resembling "*Savicava fragilis*, Nyst," Jeffr., in 'Ann. Nat. Hist.,' Aug. 1858.
- 486\*. A young shell, .06 across, laid open; crowded inside, especially near the umbones, with a pinkish mass of young ones, about .0018 in length.
- 500. A younger pair, much more transverse, transparent, without concentric ridges, the lateral teeth in one valve being simply the raising of the dorsal margins.
- 833\*. Two young specimens, nestling among Nullipore on *Fissurella alba*.
- 869\*. Two specimens, with egg-cases arranged in pattern like *Orbitolites*.
- 876\*. One specimen, curiously mended after fracture.
- 877\*. One specimen, with columella curiously contorted.
- 1023\*. One specimen, with ribs rounded and aspect of *Siphonaria lecanium*; probably a distinct species.
- 1058\*. One young specimen, probably conspecific, though only .07 by .047; there is no trace of spire.
- 1059\*. Three specimens; broad form.
- 1468\*. Fragment of *Spondylus calcifer*, with basal supports of *Hipponyx ? sciratus*, in burrow of *Lithophagus plumula*.
- 1795\*. Two specimens with five intercalary teeth.
- 1834\*. One specimen with the canal bent back, as in *Cassidaria*.
- 2221\*. One specimen, mended after severe fracture.
- 2223\*. One specimen; columellar fold bifid.
- 2224\*. Two specimens; columella bent and straight.
- 2225\*. One specimen; labrum thin.
- 2226\*. One specimen; ribs close.
- 2376\*. One specimen, dwarf form; nodulous, as in *N. nodulifera*, Phil.
- 2516. An opposite larger valve, since found, in which there is only one distinct posterior tooth, and the anterior hooked tooth is separating into two.
- [2534. One specimen of *Vitrinella ? tricarinata*, jun., of which the ribs are nodulous in the young state. If rightly determined, this adds no. 710 to the list of species.]
- 2536. A nuclear shell, .046 across, of Naticoid shape, very finely striated in each direction. It is probably a young *Hipponyx*.

† Both of these species were kindly identified by Mr. G. Busk.

## Genus CYCLADELLA.

*Testa bivalvis, tenuis, æquilateralis, æquivalvis, haud hians, umbonibus planatis. Ligamentum tenuissimum, externum. Cardo linea curvata, dent. lat. distantibus, card. transversis, haud radiantibus.*

## 56. CYCLADELLA PAPYRACEA, n. sp.

*C. t. tenuissima, subdiaphana, epidermide tenui induta, planata, suborbiculari; concentricè fortiter lirata, liris rotundatis, intus excavatis; tota superficie lineis granulosis radiantibus creberrimis minutissime cæolata; dent. card. i.-ii. transversis, margini dorsali subparallelis; dent. lat. validis.*

= "*Tellina ? eburnea*, Hanl." (fragments only), Maz. Cat. no. 56.

Mr. Hanley kindly sent for my inspection a perfect pair (as "*Lepton*"), which he had found nestling in a burrow in *Spondylus*. The hinge more resembles *Cyclas* (Lam.) than any other known genus. Its great peculiarity is, that the cardinal teeth, instead of radiating from the umbo, fall in the curve of the hinge-line, as though uniting the lateral teeth. The shell is too thin (being deeply indented within by the concentric waves) to make out the pallial line; but no trace of sinus is visible. It may therefore rank, provisionally, under *Kelliadæ*, although in other respects its affinities appear to be with *Edalia* and *Cooperella*. The ligament appears little more than a prolongation of the epidermis. Beside the transverse cardinal teeth, there is in each valve a curved line, slightly raised, like the end of a finger-nail, which bounds what would be the lunule in other shells.

Long. ·1, lat. ·123, alt. ·045.

*Hab.* Mazatlan; one perfect specimen from Havre Collection (*Mus. Hanl.*); fragments, Liverpool Collection.

## 706. ? MONTACUTA OBTUSA, n. sp.

? *M. t. planata, valde inæquilaterali, subrhomboidea; subdiaphana seu chalcedonica, haud punctata, lævi; marginibus plerumque regulariter excurvatis, dorsali recto, umbonibus haud prominentibus; cardine, utraque in valva, dente uno cardinali et fossa ligamentali; dent. lat. altera valva elongatis, rectis, altera vix conspicuis.*

Differs from ? *M. dionæa* in the elongation of the lateral teeth, and in the possession of a distinct cardinal tooth in each valve.

Long. ·047, lat. ·06, alt. ·01.

*Hab.* Mazatlan; two fresh specimens, Liverpool Collection.

Tablet 2530 contains the larger specimen; the other is transparent.

## 696. PECTUNCULUS, sp. ind.

Tablet 2531 contains a minute valve, ·033 across; outside with close, prominent concentric ridges, foliated by about twenty-four

rounded ribs, which are evanescent near the umbo. Inside with a very few strong teeth, developed in a curved line.

698. *SCISSURELLA RIMULOIDES*, n. sp.

*S. t. rapide augente, albida, tenuissima; apice celato; anfr. iii., radiatim liratis, liris subdistantibus, acutis, obliquis; umbilico magno; labro declivi, haud fisso, sed apertura postica, ut in "Rimula" formata, subquadrata, elongata; liris transversis gradus testæ incrementis definitibus; peritremate continuo, obliquo.*

Only one specimen was found of this beautiful little species, the first known from America. It looks like a *Velutina* crossed by sharp ribs in the direction of the slanting mouth. In the first whorl the ribs are very close. It then assumes its normal sculpture, but there is nearly a whorl before there is any trace of incision. This appears to have begun as a slit, which was afterwards closed up. A band, marked off by ten transverse ribs showing stages of growth, encircles the shell as far as the hole, which is long and somewhat rectangular; but there is no band between the hole and the outer lip. The shell furnishes a complete transition to *Rimula*. It is preserved on tablet 2532.

Long. .023, long. spir. .003, lat. .03; div. 140°.

*Hab.* Mazatlan; off *Spondylus calcifer*; Liverpool Collection.

699. *VITRINELLA ORNATA*, n. sp.

*V. t. subdiscoidea, diaphana, tenuissima; anfr. iv., quorum iii. primi nucleosi, insculpti; ultimo carina maxima circa peripheriam; postice subangulata, rugis radiantibus et striolis spiralibus ornata; antice carinata, carina nodosa; basi carina altera et rugis radiantibus ornata; umbilico angulato, satis magno; labro a carina indentato.*

Long. .015, lat. .028-.035; div. (circ.) 175°.

*Hab.* Mazatlan; one specimen off *Spondylus*, on tablet 2533; Liverpool Collection.

700. *VITRINELLA TENUISculpTA*, n. sp.

*V. t. planata, diaphana, tenuissima; anfr. iii. et dimidio, quorum iii. nucleosi; striis elevatis, spiralibus, quarum una magna, quasi carina prope suturam sculpta; periphæria haud angulata; basi bis angulata, interdum rugis radiantibus distantibus ornata; umbilico satis magno, carinato; apertura undata, subquadrata.*

The sculpture is not uniform over the last whorl. The principal diagnostic features are the biangulated base, the infrasutural keel, and the rounded periphery.

Long. .016, long. spir. 0, lat. .023-.03; div. 180°.

*Hab.* Mazatlan; one specimen off *Spondylus*, on tablet 2534; Liverpool Collection.

## 701. ? VITRINELLA, sp. ind.

Tablet 2535 contains a fragment, .085 across, of what was probably a gigantic species of this genus or of *Cyclotrema*, strongly keeled.

## 492. DIALA PAUPERCULA, C. B. Ad.

= *Cingula paupercula*, C. B. Ad. Pan. Shells, no. : *diagnosi mutata*.

=? *Odostomia mamillata*, Maz. Cat. no. 492: *diagnosi aucta*.

*D. t. nitida, solida; vert. nucl. anfr. iv., lirulis spiralibus et radiantibus tenuiter decussato; t. adulta decollata, vertice mamillato; anfr. norm. iv.; peritremate continuo; basi obtuse angulata, lacuna umbilicali a labio separato formata.*

Long. .085, long. spiræ .055, lat. .05; div. 34°.

The fortunate discovery of a perfect young specimen and some adult shells in the shell-washings of Professor Adams's collection enables us to explain the anomalies described in the Mazatlan Catalogue, where the solitary dead shell was referred, with doubt, to *Odostomia*, in consequence of its truncated apex. It was not possible to recognize in it Professor Adams's "*Cingula*," since that was described as having the apex "subacute," and the angular base and continuous peritreme were not mentioned. The nuclear whorls are sculptured as in *Alaba supralirata*; but the vertex, instead of being persistent as in that genus, appears to be always decollated in the adult. The shell has the peculiar glossy texture of *Diala*.

## 702. MANGELIA SULCATA, n. sp.

*M. t. subturrita, albida, apice obtuso; anfr. vii., tumidioribus; liris vii., obtusis, rectis, vix angulatis; sulcis spiralibus creberrimis, circa basin continuis; labro? . . . [fracto].*

Long. .2, long. sp. .12, lat. .07; div. 35°.

*Hab.* Mazatlan; one specimen off *Spondylus*, on tablet 2538; Liverpool Collection.

## 703. ? TORINIA, sp. in.

Tablet 2539 contains a small shell, .035 across, consisting of 3½ smooth, flattened, sinistral whorls; with a distinct suture, but not umbilicated. In a larger specimen (unfortunately lost), under the microscope this sinistral vertex appeared turned completely upside down, with more than half a whorl of an orbicular shell, white, sculptured like *Vitrinella*, with a very strong peripheral keel, and other smaller keels, decussated by radiating rugæ. This mode of growth is exactly as in the young *Torinia*; but the adult must have been very distinct from any known species, and perhaps did not belong to any described genus.

## 550. MUCRONALIA INVOLUTA, n. sp.

*M. t. parva, tenui, albida, irregulari, marginibus spiræ valde excurvatis; vertice declivi; anf. norm. vi. + . . . satis excur-*

*vatis, suturis valde impressis; basi prolongata, obtusa; apertura ovali, postice angusta; labro acuto; labio tenuissimo.*  
 Long. ·105, long. spir. ·068, lat. ·033; div. 20°.  
 = *Leiostruca ?recta*, Maz. Cat. *in loco*: non C. B. Ad.

551. *LEIOSTRACA PRODUCTA*, n. sp.

*L. t. parva, albida, subfusiformi, marginibus spiræ rectis; vertice acutiore, recto; anfr. norm. ix., planatis, suturis vix conspicuis; peripheria satis rotundata; basi rapide angustata, postea producta; apertura subrhomboidea, axi antice acuta, angulata; labro acuto; labio tenui.*

Long. ·123, long. spir. ·08, lat. ·046; div. 23°.

= *Leiostraca ?solitaria*, Maz. Cat., *in loco*: non C. B. Ad.

This species is easily recognized by its very peculiar sharply-pointed beak; in shape like a young *Rostellaria*, without the canal.

652. *ANACHIS TÆNIATA*, Phil.

*Columbella tæniata*, Phil. in Zeit. f. Mal. 1846, no. 26 (non Ad. & Rve. in Voy. Samarang).

= *Anachis Gaskoini*, Cpr. in Maz. Cat. p. 510, no. 652.

Variat *lineis spiralibus fuscis* viii., *quarum* iii. *in spira monstrantur; maculis alternatis inter secundam et tertiam sitis.*

Variat quoque *maculis evanescentibus.*

*Hab.* Callao (teste Gaskoin); Mazatlan (*E. B. Philippi, Reigen*); Cape St. Lucas (*Xantus*).

It appears that Mr. Gaskoin was not acquainted with Philippi's species, which had not then reached the Cumingian Collection; as he pronounced M. Reigen's specimen to be new, and suggested the specific name in the Mazatlan Catalogue. It would have avoided a double synonymy, could the name *tæniata* have been retained for the Samarang shell, and Mr. Gaskoin's for this. The Cape St. Lucas shells vary as above indicated.

650. ?*ANACHIS SERRATA*, Cpr.

Maz. Cat. no. 650, p. 509. Perfect specimens of this singular species having been found at Cape St. Lucas by Mr. Xantus, the diagnosis may be thus completed:—

*Epidermide fimbriata, lirulas spirales eleganter decussante; labri denticulis variantibus, interdum subobsoletis.*

Long. ·28, long. spir. ·15, lat. ·13; div. 40°.

With the sculpture and general aspect of a small *Cantharus*, it has the mouth of an *Anachis*. The operculum, and therefore the generic relations, are not yet known\*.

\* The following additions and corrections may be useful to the students of the British Museum Catalogue:—

Species 181. *Arca multicosata* further differs from *A. grandis* in the epidermis being soft and very finely hairy.